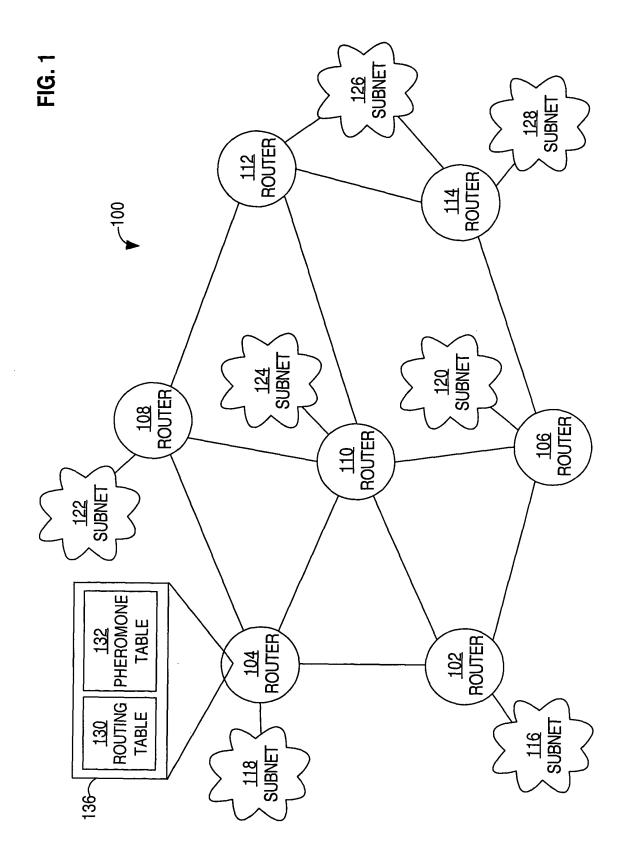
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200

202 RECEIVE FORWARD ANT

204

UPDATE FORWARD ANT WITH TIMESTAMP AND ROUTER ID

206

SELECT, FROM AMONG SET OF ROUTERS, ROUTER ASSOCIATED WITH LOWEST TIME TO FORWARD ANT'S DESTINATION

208
SEND FORWARD ANT TO SELECTED ROUTER

210

RECEIVE BACKWARD ANT THAT INDICATES TIME TAKEN FOR FORWARD ANT TO REACH DESTINATION

212

BASED ON TIME TAKEN FOR FORWARD ANT TO REACH DESTINATION, UPDATE TIME-TO-DESTINATION ASSOCIATED WITH SELECTED ROUTER

214

BASED ON INFORMATION IN BACKWARD ANT, UPDATE PATH TO DESTINATION THROUGH SELECTED ROUTER

TO 216

FIG. 2A

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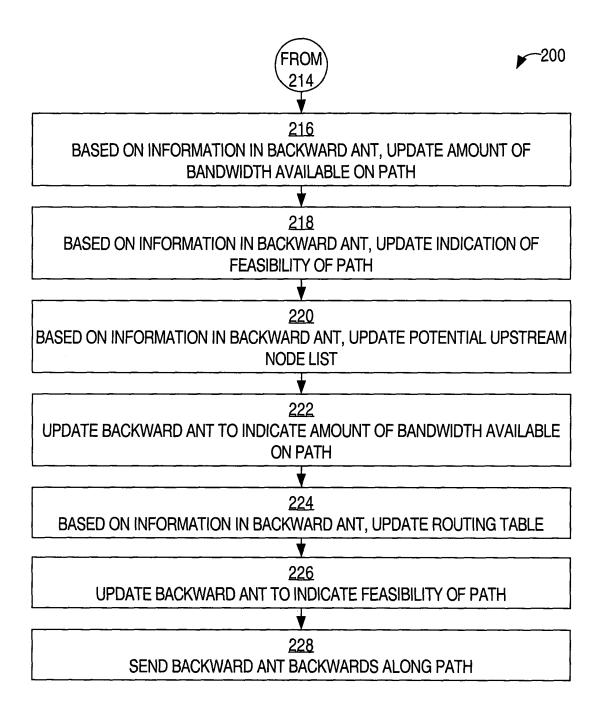


FIG. 2B

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300

302

WITH EACH NEIGHBOR ROUTER IN A SET OF NEIGHBOR ROUTERS, ASSOCIATE AN AMOUNT OF TIME PREDICTED TO BE REQUIRED FOR A DATA PACKET TO TRAVEL TO A SPECIFIED DESTINATION IF THE DATA PACKET IS TRANSMITTED TOWARD THAT NEIGHBOR ROUTER



RECEIVE A FORWARD ANT THAT INDICATES SPECIFIED DESTINATION

306

UPDATE FORWARD ANT TO CONTAIN A CURRENT TIMESTAMP AND PRESENT ROUTER'S IDENTITY

308

FROM SET OF NEIGHBOR ROUTERS, SELECT A SUBSET THAT CONTAINS ONLY ROUTERS THAT FORWARD ANT HAS NOT VISITED

310

IN RESPONSE TO RECEIVING FORWARD ANT, SELECT, FROM SUBSET, NEIGHBOR ROUTER ASSOCIATED WITH LOWEST PREDICTED TIME RELATIVE TO SPECIFIED DESTINATION



FIG. 3A

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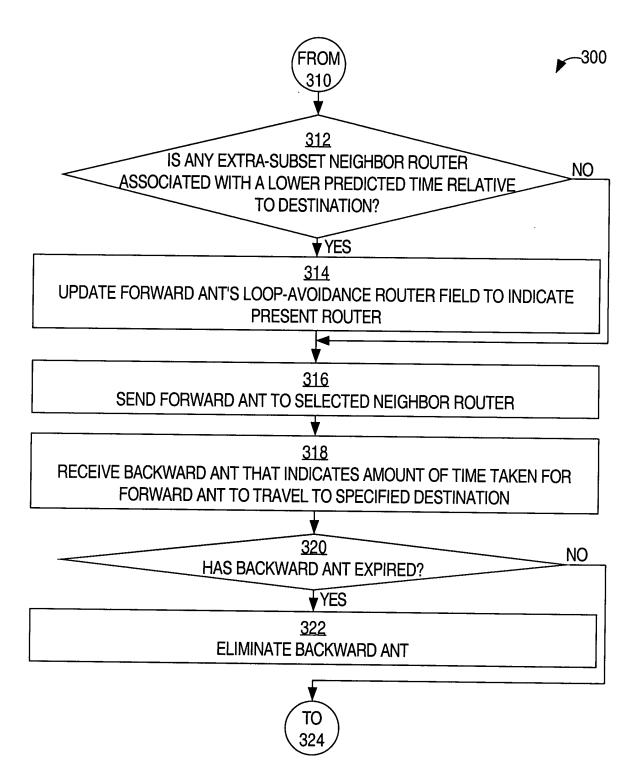


FIG. 3B

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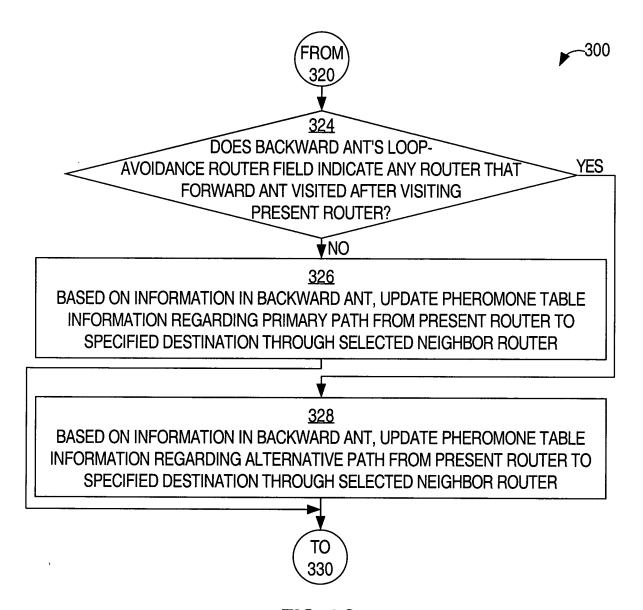


FIG. 3C

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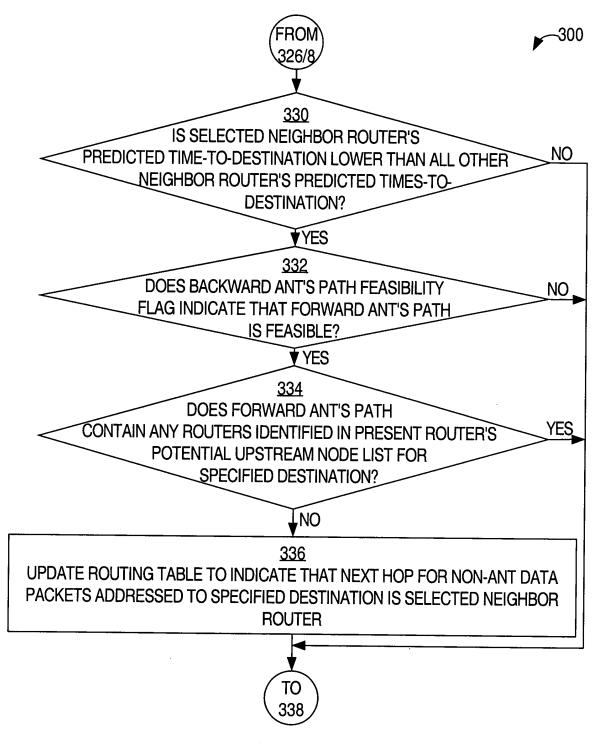


FIG. 3D

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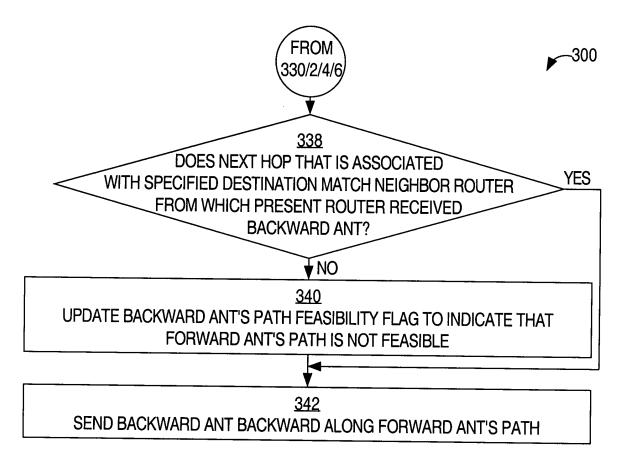


FIG. 3E

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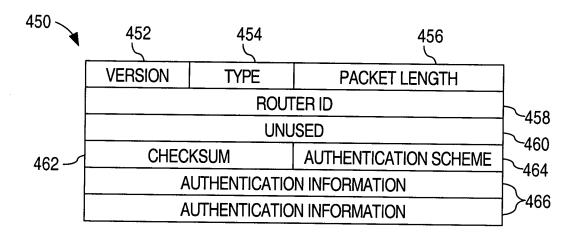


FIG. 4

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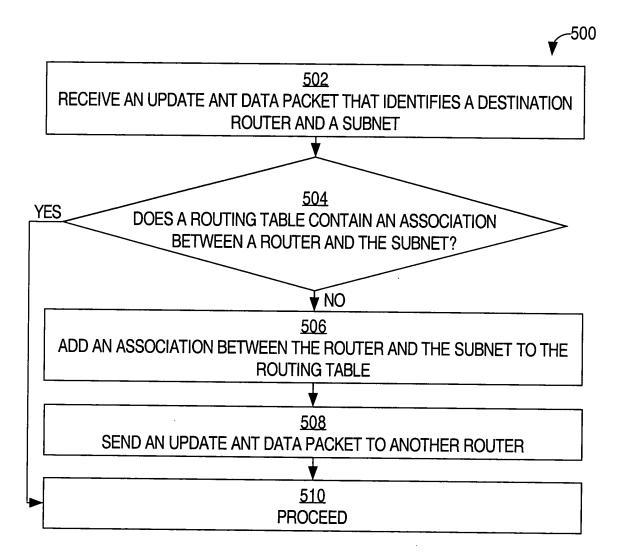


FIG. 5

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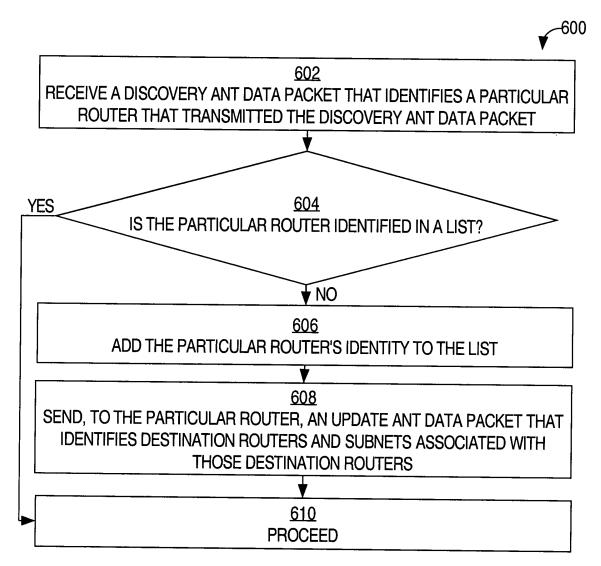


FIG. 6

Date: August 20, 2003 Express Mail No. EV322192455US Docket No: 50325-0802 Sheet 12 of 14 -700 702 HAS A SPECIFIED AMOUNT OF TIME NO PASSED SINCE A DISCOVERY ANT DATA PACKET WAS RECEIVED FROM A PARTICULAR ROUTER? ▼ YES 704 REMOVE THE PARTICULAR ROUTER'S IDENTITY FROM A LIST. 706 SEND, TO ANOTHER ROUTER, AN UPDATE ANT DATA PACKET THAT INDICATES THAT THE PARTICULAR ROUTER HAS BEEN REMOVED FROM THE LIST 708 PROCEED FIG. 7 800 802 RECEIVE AN UPDATE ANT DATA PACKET THAT INDICATES THAT A DESTINATION ROUTER HAS BEEN REMOVED 804 IN RESPONSE TO RECEIVING THE UPDATE ANT DATA PACKET, REMOVE, FROM A ROUTING TABLE, AN ASSOCIATION BETWEEN THE DESTINATION ROUTER AND A SUBNET 806 SEND AN UPDATE ANT DATA PACKET TO ANOTHER ROUTER

Adaptive, Deterministic Ant Routing Approach For Updating

Network Routing Information

Title:

Inventor(s): Fuyong Zhao

FIG. 8

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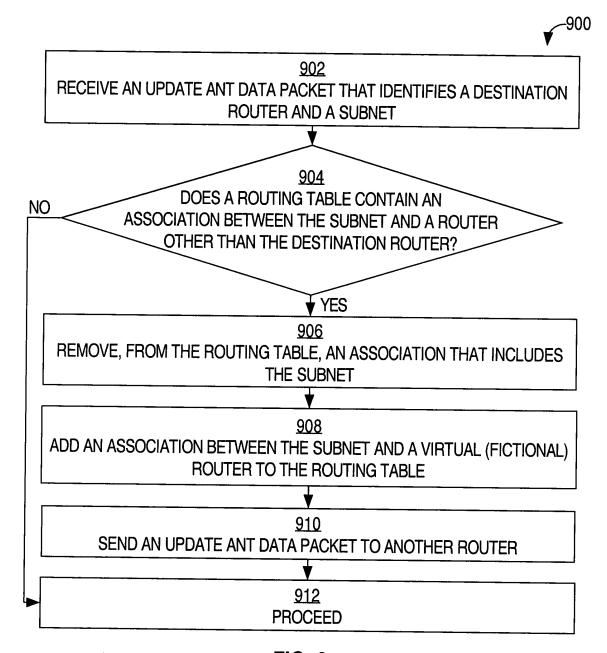


FIG. 9

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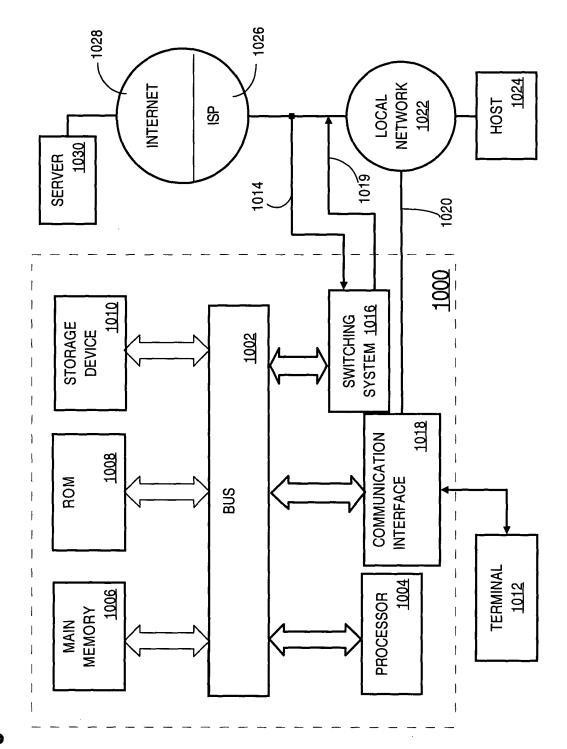


FIG. 10